

KAAR, Elmar; ARAK, A., red.; LIIVAND, T., tekhn. red.

[Alver soils and their utilization] Looalad ja nende kasutamine.  
Tallinn, Eesti riiklik kirjastus, 1961. 40 p. (MIRA 15:5)  
(Estonia--Soils)

KAAR, E. V.: Master Biol Sci (diss) -- "The forest qualities of 'al'vars' on the island of Saaremaa and possibilities for afforesting them". Tartu, 1958. 26 pp (Acad Sci Estonian SSR, Dept of Biol and Med Sci), 150 copies (KL, No 2, 1959, 119)

KAAR, Kh. [Kaar, H.]; KIRRET, O.; SHVINDLERMAN, G.

Studying the activity of catalysts on the basis of bis-cyclopentadiene compounds of titanium in the polymerization of ethylene. Izv. AN Est. SSR. Ser. fiz.-mat. i tekhn. nauk 12 no. 3:295-300 '63. (MIRA 16:11)

1. Academy of Sciences of the Estonian S.S.R., Institute of Chemistry. 2. Corresponding member of the Academy of Sciences of the Estonian S.S. R. (for Kirret).

ACCESSION NR: AP4014226

S/0023/63/000/004/0414/0419

AUTHORS: Kaar, H. (Kaar, Kh.); Kirret, O. (Corresponding member); Schwindlerman, G. (Shwindlerman, G.)

TITLE: A study of the activity of catalytic systems based on bis-cyclopentadienyl titanium compound in the polymerization of ethylene. 2. A study of the activity of the catalytic complex  $(C_5H_5)_2TiCl_2$  -  $(iso-C_9H_9)_2AlCl$

SOURCE: AN EstSSR. Izv. Ser. Fiz.-matem. i tekhn. nauk, no. 4, 1963, 414-419

TOPIC TAGS: polymerization, ethylene polymerization, catalyst, alicyclic compounds, titanium-aluminum catalyst, bis-cyclopentadienyl titanium compound, di-iso-butyl aluminum chloride, hydrochloric acid, alkylaluminum dichloride, polar titanium-aluminum bond

ABSTRACT: The effect of HCl and alkylaluminum chlorides on the performance of the catalytic complex  $(C_5H_5)_2TiCl_2$  -  $(iso-C_9H_9)_2AlCl$  in the polymerization of ethylene was investigated. The activity of the catalytic system was plotted on graphs and recorded as the yield of the polymer per 1 Mol of bis-cyclopentadienyl (BCPD) within a time period of 1.5 hours. Preliminary experiments with the polymerization

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of ethylene in toluene by the Ti-Al complex revealed a maximum activity within a 20-40°C temperature range. It was found that when either HCl or  $RAlCl_2$  were introduced into the reactor previous to the formation of the catalytic Ti-Al complex, the polymerization of ethylene did not take place at all, while the green inactive Ti-Al compound was still formed. Since HCl and  $RAlCl_2$  were effective when time was allowed for the formation of an active Ti-Al complex, it is interpreted by the authors as an indication of a certain time element required for the formation of C-Ti bonds. It is assumed that the incorporation of 0.5-1.0 millimole of HCl per 1 millimole of  $R_2AlCl$  results primarily in the formation of  $RAlCl_2$ . The obtained polymers were of linear structure and had a melting point of 133-137°C. Infrared spectral analysis revealed that when the catalytic system was stimulated by the addition of  $(C_6H_5)_3CCl$  the obtained polyethylene contained a large amount of side branches and of double bonds. Orig. art. has: 3 tables and 4 charts.

ASSOCIATION: Institut khimii Akademii nauk Estonskoy SSR (Institute of Chemistry, Academy of Sciences Estonian SSR)

SUBMITTED: 20Jun63

DATE ACQ: 07Feb64

ENCL: 00

SUB CODE: CH

NO REF Sov: 004

OTHER: 006

Card 2/2

ACCESSION NR: AP4043032

S/0023/64/000/002/0148/0153

AUTHORS: Kaar, Kh. (Kaar, H.); Sh vindlerman, G. (Schwindlerman, G.)

TITLE: On the interaction of tri-isobutyl of aluminum with alkyl chlorides

SOURCE: AN EstSSR. Izv. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 2, 1964, 148-153

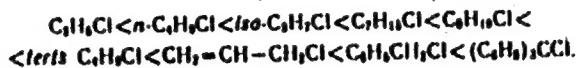
TOPIC TAGS: aluminum organic compound, alkylation, reaction rate, halide, aromatic hydrocarbon

ABSTRACT: As a sequel to the work of A. G. Pozamantir (Vy\*soko-molekulyarnye soyedineniya, v. 2, 1026, 1960) and Pozamantir and M. P. Genusov (ZhOKh, No. 4, 32, 1175, 1962) on the sequence of the rate of interaction of alkyl halides in  $R_3Al$ , the authors show that the interaction between  $R_3Al$ ,  $R_2AlCl$  or  $RA_1Cl_2$  and alkyl halides,

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being by its nature a nucleophilic substitution at the aluminum atom, is accelerated, on the one hand, when the electrophility of the organoaluminum molecule increases, and on the other hand when the possibility of a C-Cl bond interruption in the RCl increases. The RCl reactivity order is



If the reaction mixture contains aromatic hydrocarbons or groups, the appearance of  $\text{RAlCl}_2$  and  $\text{AlCl}_3$  gives rise to Friedel-Craffts reactions followed by an evolution of free HCl. Such a reaction does not occur, however, with the tertiary alkyl halides of the  $\text{R}_3\text{CCl}$  type, probably because of steric hindrance. A reaction mechanism involving various alkyl halides reacting with aluminum tri-isobutyl is suggested. The experimental procedure and the reagents employed

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are described, and the interaction with  $(\text{iso-C}_4\text{H}_9)_3\text{Al}$  with the six compounds is described and the reaction products are tabulated. Orig. art. has: 3 formulas and 1 table.

ASSOCIATION: Institut khimii Akademii nauk Estonskoy SSR (Institute of Chemistry, Academy of Sciences Estonian SSR)

SUBMITTED: 23Nov63

ENCL: 00

SUB CODE: OC

NR REF Sov: 002

OTHER: 002

Card 3/3

ACCESSION NR: AP4043033

S/0023/64/000/002/0154/0159

AUTHORS: Kaar, Kh. (Kaar, H.); Shvindlerman, G. (Schwindlerman, G.)

TITLE: Effect of addition of alcohols on the catalytic activity of the systems  $(C_5H_5)_2TiCl_2 + R_3Al$  (or  $R_2AlCl$ ) in polymerization of ethylene

SOURCE: AN EstSSR. Izv. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 2, 1964, 154-159

TOPIC TAGS: alcohol radical, catalytic activity, ethylene, titanium compound, catalytic polymerization

ABSTRACT: This study was of interest because alcohols, on the one hand, are capable of dissociation with separation of a proton ( $ROH \rightleftharpoons RO^- + H^+$ ), and on the other hand the anion  $OR^-$  is capable of replacing  $Cl^-$  in  $(C_5H_5)_2TiCl_2$  with formation of a new titanium compound  $(C_5H_5)_2Ti(OC_2H_5)Cl$ , containing oxygen. It is shown that the activity

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of the bicomponent catalytic system  $(C_5H_5)_2TiCl_2$  --  $(iso-C_4H_9)_2AlCl$  in the polymerization of ethylene increases if a third component selected from the group of alcohols is added to the system after the formation of the catalytic complex. Unlike in the previously observed action of small amounts of HCl or RCl, which interact with the anionic part of the catalytic complex, the influence of the alcohols is also connected with the direct addition of an OR group to titanium. This leads to an increase in the stability of the catalytic complex. The reagents  $(Al(iso-C_4H_9)_3(iso-C_4H_9)_2AlCl$ , and  $(C_5H_5)_2TiCl_2$ ), and also the polymerization of the ethylene, were carried out in accordance with a procedure described previously by the authors (Izv. AN ESSR, Ser. fiz.-matem. i tekhn. nauk, no. 3, 295 and 414, 1963). The experimental procedure is briefly described. Orig. art. has: 1 figure and 4 tables.

Card 2/3

KAAR, Kh. [Kaar, H.]; SHVINDLERMAN, G. [Schwindlerman, G.]

Interaction of triisobutylaluminum with alkyl chlorides.  
Izv. AN Est. SSR. Ser. fiz.-mat. i tekhn. nauk 13 no.2:  
148-153 '64.

Effect of the addition of alcohols on the catalytic activity  
of the systems  $(C_5H_5)_2 TiCl_2 + R_3Al$  (or  $R_2AlCl$ ) during  
polymerization of ethylene. Ibid.:154-159 (MIRA 17:9)

1. Academy of Sciences of the Estonian S.S.R., Institute of  
Chemistry.

KAAR, R.

New designs for building light-type hog houses. p. 82

SOTSILKTLIK POLLUMJANDUS. POLLUMJANDUS MINISTEERIUM.  
Tallin, Hungary. No. 1, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 11  
November 1959.

Uncl.

KAARAMAS, L.

AGRICULTURE

Periodical: SOTSIALSTLIK POLLUMAJANDUS Vol 14, no. 3, 1959 Feb.

KAARAMAS, L. The norm day or direct wages? p. 100

Monthly List of East European Accessions (EEAI) LC, Vol. 1, No. 5,  
May 1959, Unclass.

KAARDE, I. A. Prof. and SIARE, R. K., Lecturer  
Tartuski State University, Veterinary Faculty. (Tartu State Univ, Estonia, USSR)  
"Treatment of the obstruction of the alimentary tract with water pressure".  
S: Veterinaria 27 (7), 1950, p. 52

KAARDE, I.A.

USSR

A special form of disease—bog disease, and its treatment with cobalt salts. I. A. Kaarde (State Univ., Turku). *Mikroelementy v Zhivotnykh i Zemelnykh Materialakh*, Akad. Nauk S.S.R., Trudy Kraf. Mikroelementov, 1956, 403-6 (912). The so-called bog sickness of India sheep which appeared in areas of the Baltic States in late 1930's is caused by mineral deficiencies with especial emphasis on Co. Treatment with Co salts or adding of Co to the feed soils (3 kg./hectare) is effective in controlling the disease. Symptoms of the disease are detailed; it occurs usually during the winter and leads to loss in wt., atrophy of muscles, and retarded sheep growth of body hair. G. M. Kasolapov

KAHRDE, I.A.

USSR/Medicine - Veterinary

FD-1290

Card 1/1 : Pub 137 10/20

Author : Kaarde, I. A. Professor

Title : Prevalance and etiology of toxic hepatodystrophy (TGD) in swine in the Estonian SSR

Periodical : Veterinariya, 8, 42-43, Aug 1954

Abstract : Prevalance of TGD in swine has been discovered on those farms where improper sanitary-hygienic conditions are tolerated. Spoiled and decomposed remnants of food particles are the principal causes for spread of TGD, because such food contains toxic substances causing inflammation of the intestinal tract. Incidence of this disease is greater among young swine, because their resistance to toxic condition is lower. Greater susceptibility to the disease has been discovered among swine that lack vitamin A<sub>1</sub>, vitamin B complex, and vitamin C in their diet.

Institution : Estonian Agricultural Academy

Submitted :

KAARDE, J.

USSR / Diseases of Farm Animals. Diseases Caused  
by Helminths. R-2

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7354

Author : V. Ridala, J. Kaarde  
Inst : Estonian Agricultural Academy  
Title : Parasitic Diseases of the Intestinal Tract of  
Hogs, their Distribution, Treatment and Prophy-  
laxis.

Orig Pub: Sb. nauchn. tr. Est. s-kh. akad. 1956, 2, 175-181  
(Est.; Rez. Russk.).

Abstract: Describes parasitological examinations of the bodies of dead hogs and the organs of slaughtered hogs, and those by means of coprological analysis, made for the purpose of determining the types of intestinal parasites of hogs, and the frequency of the diseases caused by them, in

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KAARDE, I., prof., red.; PARRE, Yu. [Parre, J.], kand. vet., nauk, red.; RIDALA, V., prof., doktor vet. nauk, red.; TILGA, V., doktor vet. nauk, red.; LEEK, K., tekhn. red.

[Diseases of swine] Bolezni svinei. Tartu, Izd. Estonskoi sel'-khoz. Akad. i Estonskogo nauchno-issl. in-ta zhivotnovodstva i veterinarii, 1960. 349 p. (MIRA 15:1)

1. Tartu. Eesti pollumajanduse akadeemia. 2. Estonskiy nauchno-issledovatel'skiy institut zhivotnovodstva i veterinarii (for Tilga). 3. Estonskaya sel'skokhozyaystvennaya akademiya (for Ridala).

(Swine—Diseases and pests)

KAARDE, I. A.

"The white muscle disease in lambs in the Estonian SSR and the prevention of same by means of sodium selenite."

report to be submitted at the 17th World Veterinary Congress,  
Hanover, West Germany, 14-21 Aug 63.

KAARLE, I.A., prof.; KHERUVIMOV, V.P.; SEVRUK, O.; LUZYANIN, E.;  
LFSNIK, E.; POTAPOV, V.M.; SIKORSKIY, A.N.

Brief news. Veterinaria 41 no.6:122-125 Je '64.  
(MTRA 18:6)

KAARDE, J., prof.; REIDLA, K., kand. veter. nauk, zam.dots.;  
SEPP, V., kand. veter. nauk, st. uchitel'; AVARSOO, H.,  
red.; KOHU, H., tekhn. red.

[Veterinary physiotherapy] Veterinarfusioteraapia. Tallinn,  
Eesti Riiklik Kirjastus, 1963. 191 p. (MIRA 17:1)  
(Veterinary medicine)

USSR / Plant Diseases. General...

O

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58836.

Author : Kaarep, E.

Inst : Estonian Scientific Research Institute of Farming  
and Agricultural Improvement.

Title : Recent Diseases of Plants in the Estonian SSR.

Orig Pub: Teaduslik-Tehn. inform bülj. Eesti Maaviljeluse ja  
Maaparanduse Teadusliku Uurimise Inst., Byul.  
nauchno-tekh. inform. Est. n.-i. in-t zemled. i  
melior., 1957, No 1, 19-24.

Abstract: The tomato root rot (*Vermicularia tramentaria*  
Berk. et Br.) was detected in Tallinn in 1954.  
From the tomato diseases, the cucumber mosaic  
virus, besides the widely distributed tobacco  
mosaic virus, became widespread as a disease

Card 1/3

1

KAAREP, E.

USSR/Plant Diseases. - Disease of Cultivated Plants.

0-3

Abs Jour : Ref Zhur - Biol., No 15, 1958, 63558

Author : Kaarep, E.

Inst : -

Title : Bitter Rot in the Plum (Caused by *Collectotrichum fructigenum* (Beck.) Vassil.) .... A New Disease in the Estonian SSR.

Orig Pub : Bot. pollumaandus, 1958, No 1, 32.

Abstract : No abstract.

Card 1/1

.. 15 ..

KAAREP, K.

Using movable glass-covered propped hothouses. p. 133.

SOTSIALISTLIK POLLUMAJANDUS. (Pollandmajanduse Ministeerium) Tallinn,  
Estonia. Vol. 13, no. 3, March 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 11,  
November 1959.

Uncl.

KERES, Leida; KAARI, Haldja; PARN, A., red.; KASEMETS, O., telchn. red.  
[Manual for pediatricians] Juhendeid lastearstile. Tallinn,  
Eesti riiklik kirjastus, 1962. 331 p. (MIRA 15:5)  
(PEDIATRICS)

KAARLI, K.

Chemical elements for ensiling should be used efficiently. p.448

SOTSIALISTIJK P'LLUMAJANDUS. Tallinn, Estonia. Vol. 14, no. 10, May 1959

Monthly List of East European Accessions (EEAI) LC. Vol. 8, No. 9, September 1959  
Uncl.

AAMISEPP, I.; EICHENBAUM, E.; HALLER, E.; KAARLI, K.; KIIK, H.;  
KIVI, V.; KOTKAS, H.; KORJUS, H.; LEIVATEGIJA, L.; LIIV, J.;  
LÄNTS, L.; MÄLKSCO, A.; PEDAJA, V.; POLNA, H.; RANDALU, I.;  
RUUGE, J.; SEKSEL, H.; TOOMRE, R.; TUPITS, H.; TUUL, S.;  
TÖNISSON, H.; TÄÄGER, A.; VIIRAND, M.; VAHENÖMM, K.; ARAK, A.,  
red.

[Plant breeding] Taimekasvatus. Tallinn, Eesti Raamat, 1964.  
813 p. [In Estonian] (MIRA 18:1)

KAARMA, Iokhannes Yanovich; OSIN, Nikolay Petrovich; LAANMYAR, Vambola Eduardovich [Laanmäe, V.]; MAGON, E.E., red.; BARANOVA, L.G., tekhn. red.

[Estonian meat-type swine] Estonskaia bekonnaia poroda svinsei. Leningrad, Sel'khozizdat, 1962. 109 p. (MIRA 16:4)  
(Estonia—Swine breeding)

JANES, Hans; KAASIK, Paul; PUUSEPP, Eugen; VOLDEK, Aleksander; VORK, E.,  
prof., retsentent; OORN, F., inzh., retsentent; ABO, L., red.;  
VAHTRE, I., tekhn. red.

[Electric machinery] Elektrimasinad [By] H.Janes ja teised.  
Tallinn, Eesti riiklik kirjastus, 1961. 647 p. (MIRA 15:5)  
(Electric generators) (Electric transformers)

NEGOVOROVA, Ye.D., kand.tekhn.nauk; KAASIK, P.Yu., kand.tekhn.nauk;  
PARTS, R.R., inzh.; BORISOV, A.P., inzh.

Basic principles for designing regulated asynchronous motors.  
Vest. elektroprom. 32 no.4:68-71 Ap '61. (MIRA 15:5)  
(Electric motors, Induction)

KAASIK, Paul' Juliusovich; NESGOVOROVA, Yelena Dmitriyevna;  
USSR, A.S., kand. tekhn. nauk, red.

[Regulated squirrel-cage induction motors in automatic  
control systems] Upravliaemye asinkhronnye dvigateli s  
belich'e kletkoi na rotore v sistemakh avtomatiki.  
Moskva, Energiia, 1965. 198 p. (MIRA 18:6)

KAAZIK P.A.

KAAZIK, P.A. [Kaašik, P.A.], inzh. BUTKEVICH, Yu.M., inzh. (Tallinn)

Stamp for inclined washers. Stroi.pred.neft.prom. 2 no.8:25-26  
Ag '57. (MIRA 11:1)  
(Tallinn--Washers (Mechanics))

*KAASIK, P. Yu.*  
KAASIK, P. Yu.

Kaasik, P. Yu.

"Investigation of Supplemental Dispersion and Supplemental Losses in the Loading of Asynchronous Machinery." Min Higher Education USSR. Leningrad Polytechnic Inst imeni M. I. Kalinin. Leningrad, 1955. (Dissertation of the Degree of Candidate in Technical Sciences.)

SO: Knizhnaya Letopis', No. 27, 2 July 1955

AUTHORS: Nesgovorova, Ye.D., Cand. Tech. Sci., Docent; and  
Kaasik, P.Yu., Cand. Tech. Sci., Aspirant

SOV/144-59-7-4/17

TITLE: Calculation of the Mechanical Characteristics of Miniature Induction Motors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika 1959, Nr 7, pp 31-35 (USSR)

ABSTRACT: Induction-type miniature motors or fractional horsepower (f.h.p.) induction motors are widely used in automatic control systems and elsewhere. Such characteristics of these motors as their inductance and resistance are different from those of normal induction motors and so the usual formulae may not always be suitable for calculating their mechanical and other characteristics. This article is concerned with the formulae for calculation of electromagnetic torque of f.h.p. motors. Most Soviet designers use the L-network equivalent circuit for an induction motor, proposed by Acad. M.P. Kostenko, which is shown in Fig 1. Variants of this circuit used in particular cases are briefly discussed. For f.h.p. induction motors of 100-500 W, or for an induction motor supplied through a line of high resistance and inductance and in some other

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Calculation of the Mechanical Characteristics of Miniature Induction Motors

circumstances, it is advisable to use the accurate L-network equivalent circuit in calculating the torque, which gives an expression somewhat different from formula (1). It is pointed out that the use of a simple correction factor for Eq (1), as advanced by Stolov, is not acceptable. The use of quadripole theory as recommended by V.V. Meshcheryakov is also deprecated. An expression is then derived for the torque using the accurate L-network equivalent circuit, and various calculations of the mechanical characteristics of the motor are compared with experimental values. Expressions (7) and (8) are derived for the secondary current and torque respectively, but as the torque expression is cumbersome the more convenient expressions (9) and (10) are derived after some simplification. The maximum torque is determined by inserting the value of the critical slip from Eq (11) into Eq (10). Formulae (1) and (10) for the torque were compared by calculating the mechanical characteristics (torque as a function of slip) for a three-phase fractional horsepower induction motor. The main characteristics of the machine are given and it is

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Motors

the same as that described by Stolov. The results are plotted graphically in Fig 1, where curve 1 corresponds to Eq (1), and curve 2 to Eq (10) (which coincides with the curve calculated by Stolov). Curve 3 gives the experimental results and curve 4 corresponds to the usual formulae (1) but embodies the inaccurate correction factors of Stolov. It will be seen that formulae (1) and (10) and Stolov's method give sufficiently accurate results but that curve 4 is very inaccurate. There are 2 figures and 4 Soviet references.

ASSOCIATION: Kafedra elektricheskikh mashin, Leningradskiy  
Card 3/3 politekhnicheskiy institut (Chair of Electrical  
Machines, Leningrad Polytechnical Institute)

SUBMITTED: May 30, 1959

S/196/61/000/009/045/052  
E194/E155

AUTHOR: Kaazik, P.Yu.

TITLE: The influence of motor parameters on the linearity of control of controlled squirrel-cage induction motors

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.9, 1961, 10, abstract 9K 83. (Nauchno-tekh. inform. byul. Leningr. politekhn. in-ta, no.8, 1960, 15-24)

TEXT: The article considers the influence of the parameters of two-phase squirrel-cage motors on the linearity of control, i.e. on the proportionality between the speed and the coefficient of the signal applied to the control winding when the torque is constant. Theoretical analysis and practical tests on a motor with a rating of 1 W and speed  $n_c = 8000$  r.p.m. showed that for motors of up to 5 W the linearity of control is mainly influenced by the ohmic resistance of rotor and stator and also by the inductive leakage reactance of the rotor, whilst the inductive leakage reactance of the stator has negligible effect.

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The influence of motor parameters ... S/196/61/000/009/045/052  
E194/E155

It is recommended to reduce the rotor leakage reactance and to increase its ohmic resistance. If the relative ohmic resistance of the rotor is increased above 1.6 there is no appreciable improvement in the linearity of control.  
1 literature reference.

[Abstractor's note: Complete translation.]

Card 2/2

KAAZIK, P.Yu.

Additional losses in loaded asynchronous machines. Trudy LF 1 no.209:  
281-299 '60. (MIRA 14/2)  
(Electric machinery, Synchronous)

EL'ZIK, P.Yu.

Magnetic field in the air gap of synchronous machines with  
fractional windings. Trudy LPI no. 209:300-312 '60.

(Electric motors, Induction-Windings) (MIA 14:2)

LAZIK, P.Yu.

Additional dissipation through the air gap of asynchronous machines with fractional windings. Trudy LI no. 209:313-537 '0.

(IEE 14:2)  
(Electric motors, Induction--Windings)

KAAZIK, P.Yu. [Kaasik, P.]

Precise circular diagram of a low-powered asynchronous machine.  
Izv. vys. ucheb. zav.; elekromekh. 4 no. 1:38-50 '61. (MIRA 14:4)  
(Electric motors, Induction)

KAAZIK, Paul' Juliusovich, kand. tekhn. nauk, dotsent

Semigraphical method for determining the characteristics of  
an asynchronous machine with amplitude control. Izv. vys.  
ucheb. zav.; elektromekh. 5 no.7:730-738 '62.  
(MIRA 15:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

(Electric motors, Induction)

KAAZIK, Paul' Juliusovich, kand.tekhn.nauk, dotsent

Semigraphical method for determining the characteristics of an asynchronous machine with presence of phase control. Izv. vys. uch. zav.; elektromekh. 5 no.8:866-875 '62. (MIRA 15:8)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

(Electric motors, Induction)

KAAZIK, Paul' Juliusovich, kand.tekhn.nauk,dotsent

Relative parameters of regulated asynchronous motors with squirrel-cage rotors. Izv.vys.ucheb.zav.; elektromekh. 7 no. 3:339-347 '64. (MIRA 17:5)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

KAAZIK, Paul' Juliusovich, kand.tekhn.nauk, dotsent; NESGOVOROVA, Yelena Dmitriyevna, kand.tekhn.nauk, dotsent

Analysis of the stability and linearity of the mechanical characteristic of controlled asynchronous motors. Izv.vys.ucheb. zav.; elektromekh. 7 no.11:1350-1359 '64.

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

(MIRA 18:3)

TOKOV, M.I.; KAAZIK, P.Yu.

Semigraphical method for calculating the statistical characteristics of an asynchronous motor with speed regulation using an asynchronous frequency converter. Trudy LPI no.241:41-52 '64. (MIRA 18:4)

**ABSTRACT:** Conventional T-type equivalent circuits of capacitor induction servomotors have been used in complicated analytical calculations of these motors. L-type equivalent circuits have been used in the Soviet literature.

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L 36494-65

ACCESSION NR: AT5004639

analysis of the unbalanced operation of a capacitor motor by the symmetrical-component method suitable for graphic-analytical calculations is presented. The method is based on the use of a three-phase component representation. It can be used for the analysis of unbalanced operation of three-phase induction motors with a single-phase capacitor.

APPROVED FOR RELEASE: 08/10/2001

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APPROVED FOR RELEASE: 08/10/2001

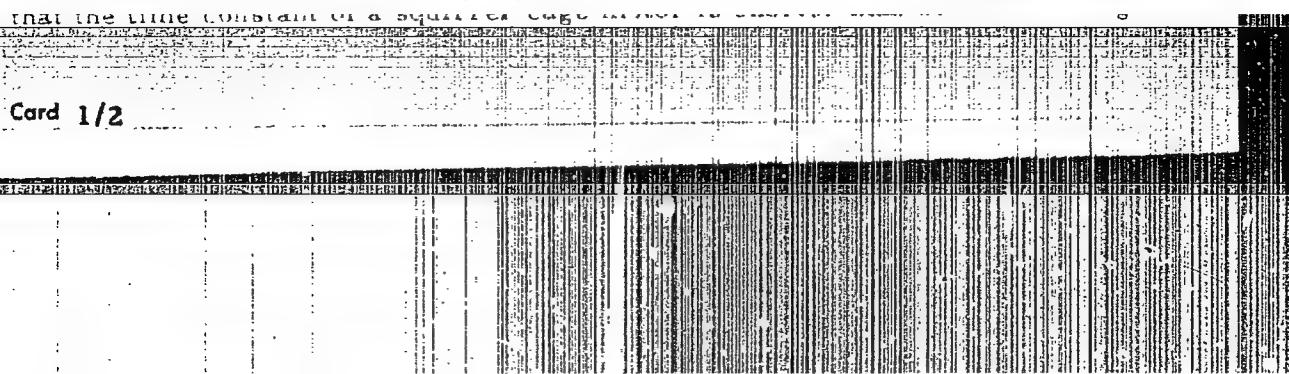
CIA-RDP86-00513R000619720011-4"

**SOURCE:** Leningrad. Politekhnicheskiy institut. Trud, no. 24, 1964  
Elektromashinostroyeniye (Electrical machinery manufacture), 86-89

**TOPIC TAGS:** drag-cup motor, controllable induction motor, capacitor induction motor, servomotor, servomotors

**ABSTRACT:** Heretofore drag-cup servomotors have been used in automatic control systems because of their high torque and low inertia. Since they have a large electromechanical time constant, they have been believed to have had a longer acceleration time than squirrel-cage motors. Soviet investigators, however, find

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619720011-4



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L 36495-65

ACCESSION NR: AT5004640

cup motor for a motor capacity of 5 w or more. Under 5 w, the relation is questionable. To clarify the matter, five smaller-than-5 w motors were calculated, both types of the same power and with the same heating of stator windings. Estimated data (table 2) shows that, under the above conditions, the size of the drag-cup motor considerably exceeds, and its moment of inertia and time constant are both lower than those of the

KAAZIK, Paul' Juliusovich, kand. tekhn. nauk, dotsent

Effect of the nonlinearity of the mechanical characteristics of  
regulated induction motors on their operating characteristics.  
Izv. vys. ucheb. zav.; elektromekh. 8 no.4:412-420 '65.

(MIRA 18:5)

1. Kafedra elektrichestva mashin Leningradskogo politekhnicheskogo  
instituta.

NESGOVOROVA, Yelena Dmitriyevna, kand.tekhn.nauk, dotsent; KAAZIK, Paul' Yulianovich, kand.tekhn.nauk, dotsent; SHARAKHIN, Vladimir Nikoayevich, assistant; ZABOROVSKIY, Sergey Aleksandrovich, assistant; BORISOV, Al'bert Petrovich, assistant; TOKOV, Mikhail Ivanovich, assistant

Frequency system for regulating the angular velocity of an asynchronous motor with fan load and auxiliary power supply. Izv.vys.ucheb.zav.; elektrcmekh. 8 no.9:966-975 '65. (MIRA 18:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta (for Nesgovorova, Kaazik, Borisov, Tokov). 2. Kafedra elektrooborudovaniya promyshlennyykh predpriyatiy Leningradskogo politekhnicheskogo instituta (for Sharakhin, Zaborovskiy).

KAGIK, Paul' I. Mikhovich, kand. tekhn. nauk, dozent; FUKHOV, A. A., starshiy inzh.

Graphical method for determining the mechanical and regulatory  
characteristics of two-phase controlled induction motors. Izv. vys.  
uchet. zav.; elektromekh. 8 no.9:985-993 '65.

(MIRA 18:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo  
instituta.

KAASIK, U.; SALUM, H.; SINISOO, M.; SILLAMAA, H., kand. tekm. nauk,  
retsenzent; ABO, L., red.; LAUL, U., tekm. red.

[Electronic calculating machines] Elektron-arvutusmasinad.  
Tallinn, Eesti Riiklik Kirjastus, 1960. 194 p. (MIRA 15:2)  
(Electronic calculating machines)

**KAAZIK, Yu. Ya.**

USSR/Mathematics - Functional equations

Card 1/1      Pub. 22 - 1/47

Authors : Kaazik, Yu. Ya. and Ganme, E. E.

Title : About a method of approximate solution of functional equations

Periodical : Dok. AN SSSR 101/6, 981 - 984, Apr. 21, 1955

Abstract : A method is presented for the solution of the so-called functional equations of the type:  $P(X) = 0$ , where the  $P$  is (in a certain vicinity of the exact solution of  $X$ ) an analytical operator for transformation from the Banach space  $X$  into a linear normed space  $Y$ . Four references: 2 USA and 2 USSR (1870-1950). Tables.

Institution : The State University, Tartu, Estonia

Presented by: Academician A. N. Kolmogorov, December 14, 1954

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/2 PG - 755  
 AUTHOR KAASIK Ju.Ja.  
 TITLE On the approximative solution of non-linear operator equations  
 with iteration methods.  
 PERIODICAL Uspechi mat.Nauk. 12, 1, 195-199 (1957)  
 reviewed 5/1957

Let be given the non-linear operator equation

$$(1) \quad P(x) = 0,$$

where  $y = P(x)$  is an analytic operator of the Banach space  $X$  into the normalized space  $Y$ . Let  $x_0$  be the initial approximation of the rigorous solution  $x^*$ , the further approximations let be given by the process:

$$(2) \quad \Delta x_{n+1} = x_{n+1} - x_n = F_n \Gamma_n P(x_n) \quad (n=0,1,\dots).$$

Here  $\Gamma_n = [P'(x_n)]^{-1}$ ;  $F_n$  is a certain linear operator which is formed by the operators  $E$ ,  $\Gamma_n P''(x_n)$ , ...,  $\Gamma_n P^{(k)}(x_n)$  and the operator  $\Gamma_n P(x_n)$  ( $k$  is a fixed integer). For the proof of the rigorous convergence  $x_n \rightarrow x^*$  and in order to obtain the estimation for  $\|x^* - x_n\|$  the author uses an idea of Kantorovich (Uspechi mat.Nauk 3, 89-185 (1948)). He states that if there

KAASIK, Yu. Ja.

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/3 PG - 852  
 AUTHOR KAASIK Ju.Ja.  
 TITLE On a class of iteration processes for the approximative  
 solution of operator equations.  
 PERIODICAL Doklady Akad. Nauk 112, 579-582 (1957)  
 reviewed 6/1957

Let  $P$  be a two times differentiable operator of the Banach space  $X$  into the normalized space  $X$ . For the approximative solution of the equation

$$(1) \quad P(x) = 0$$

there is used the iteration process

$$(2) \quad \Delta x_{n+1} = x_{n+1} - x_n = -(E + \alpha R_n)^{-1} [E + (\alpha + 1)R_n] \Gamma_n P(x_n).$$

Here  $E$  is the identical operator,  $\Gamma_n = [P'(x_n)]^{-1}$  and  $R_n = \frac{1}{2} \Gamma_n P''(x_n) \Gamma_n P(x_n)$ .

For different  $\alpha$  (real number) one obtains several well-known iteration processes.

Theorem: 1) let exist the inverse operator  $\Gamma_0 = [P'(x_0)]^{-1}$ , where

Doklady Akad. Nauk 112, 579-582 (1957)

CARD 2/3 PG - 852

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619720011-4"

$$(3) \quad \|x - x_0\| \leq \frac{\delta_0 \eta_0}{1 - s_0^2 h_0^2 (1 - h_0)} ,$$

where

$$\left\| \frac{1}{j!} \Gamma_0 P^{(j)}(x_0) \right\| \leq \Lambda_0 H_0^{j-1} \quad (j=2, 3, \dots),$$

3) The magnitudes  $\eta_0$ ,  $\Lambda_0$ ,  $H_0$  satisfy the inequations

$$|\alpha| \Lambda_0 H_0 \eta_0 < 1, \quad |\alpha + 1| \Lambda_0 H_0 \eta_0 < 1, \quad h_0 = H_0 \delta_0 \eta_0 < 1,$$

where

$$\delta_0 = \frac{1 - (|\alpha| + 1) \Lambda_0 H_0 \eta_0}{1 - |\alpha| \Lambda_0 H_0 \eta_0}, \quad q_0 = 1 - \Lambda_0 \frac{h_0(2 - h_0)}{(1 - h_0)^2} > 0$$

$$p_0^2 = \frac{s_0^2 h_0^2}{q_0 (1 - h_0)^2} \leq 1,$$

CARPINISAN, Olimpia, ing.; TAFLAN, Mircea, chim.; DAN, V., ing.;  
BESLIU, L., ing.; KABA, E., ing.; VERTIEN, P., ing.; DAVID, V., ing.

Experiments for utilizing the hydrocyanic acid from the  
coke gas. Metalurgia Rum 15 no.5:348-352 My '63.

KABA, Emeric, ing.; LIVEANU, Nicolaie, ing.; GRINDEANU, Alexandru, ing.  
GHERGHEL, Cornel, ing.; MARINUT, Miron;

Improving the determination of coal mixture for coking.  
Metalurgia Rum 15 no.5:345-347 My '63.

KABA, Iuliu, ing.

The stage of the introduction of new techniques  
and mechanization of the underground production  
process in Jiu Valley mining exploitation. Rev min  
13 no.8:351-354 Ag '62.

37954  
S/137/62/000/005/142/150  
A052/A101

1.2310

AUTHORS: Pechan, J., Kaba, J.

TITLE: New Czechoslovakian automatic friction welding machine

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 68, abstract 5E378  
("Techn. zpravy. Vyzkum. ustav. naft. motoru", 8, no. 1, 1960 (1961),  
26 - 28, Czech; Russian and German summaries)

TEXT: The basic principles of friction welding are outlined. The hydraulic control system of ATS-20 friction welding machine and its operation is described. The machine is intended for welding rods 20 - 50 mm in diameter, 200 mm long from the spindle side and of any length from the loose head side. The compressive force is  $\leq$  30 tons. The rotating speed is  $\leq$  1,600 rpm. The temperature on contact sections is 800 - 1,260°C. The welding cycle is automated.

M. Tapel'zon

[Abstracter's note: Complete translation]

Card 1/1

KABACHEK, I.

We observed "Builder's Day" in the proper manner. Sel'stroi.  
11 no.9:16 S '56. (MIRA 9:11)

1. Brigadir stroitel'noy birgady Ordzhonikidzevskoy Mashinno-  
traktornoy stantsii Sunzhenskogo rayona Groznyanskoy oblasti.  
(Building)

8/056/63/044/001/008/067  
B108/B180

AUTHORS: Korotkov, K. A., Kabachenko, A. P., Lysikov, Yu. A., Dobrov, Yu. V.

TITLE: Internal bremsstrahlung which accompanies the  $\beta$ -decay of  $\text{Ca}^{45}$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 45 - 47

TEXT: The bremsstrahlung was measured at 40 - 215 kev on a single-channel scintillation spectrometer with an NaI(Tl) crystal in an aluminum container.

The  $\text{Ca}^{45}$  beta sources were prepared from a solution of calcium chloride and powdered  $\text{CaCO}_3$ , applied to and covered by a methacrylate film of  $0.1 \text{ mg/cm}^2$ . The sources were kept at a pressure of 1 mm Hg. The spectrum was compared with that calculated according to the theory of J. K. Knipp and G. E. Uhlenbeck (Physica, 3, 425, 1936) and P. Bloch (Phys. Rev., 50, 4272, 1936). At low energies (60 - 130 kev) both curves agree very well, but at higher energies the discrepancy is considerable (35% at 215 kev) and cannot be eliminated by taking the Coulomb effect into consideration. There is 1 figure.

Card 1/2

Internal bremsstrahlung which ...

S/056/63/044/001/008/067  
B108/B180

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State  
University)

SUBMITTED: July 1, 1962

Card 2/2

ACC NR: AT6036519

SOURCE CODE: UR/0000/66/000/000/0097/0093

AUTHOR: Vasil'yev, I. S.; Ryzhov, N. I.; Derbeneva, N. N.; Portman, A. I.;  
Dorofeyeva, N. Zh.; Khleponina, V. F.; Kabachenko, A. S.

ORG: none

TITLE: Effect of proton and gamma irradiation on the mitotic activity of transplanted human cell cultures [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 97-98

TOPIC TAGS: proton radiation biologic effect, ionizing radiation biologic effect, relative biologic efficiency, human cell culture, radiation tissue effect, mitosis

ABSTRACT: Transplanted cell cultures are a valuable object of radiobiological study because of their high radiosensitivity. They are sometimes the only biological objects available for study of low-energy radiation effects. This series of experiments was conducted to determine the comparative effect of proton and gamma irradiation on the mitotic activity of human amniotic cells. Two-day-old cultures of amniotic cells, in single layer or in suspension, were irradiated with 630-Mev protons from an OIYAI

Card 1/3

ACC NR: AT6036519

synchrocyclotron or with  $\text{Co}^{60}$  gamma rays. The dose power of protons was 35 rad/sec and of gamma rays, 3 rad/sec. The activation and luminescent methods of proton dosimetry were used. Ionization chambers were used to monitor the beam. Mitotic activity was determined immediately after gamma irradiation, and then at intervals of 12, 24, 36, and 48 hr. Similar determinations were made 10, 20, 40, and 60 hr after proton irradiation.

A definite change in mitotic activity due to gamma and proton irradiation was observed in these experiments. Immediately after gamma irradiation with all doses the mitotic index decreased, reaching 1.6-1.3 with a 1000-1500 rad dose, as compared with 5.5 in the control. With doses of gamma rays from 750 to 1500 rad the mitotic index fell to 0.5-0.6 within 12 hr. A different pattern was observed following proton irradiation: within 10 hr of irradiation with 40-450 rad the mitotic index increased approximately 50% as compared with the control. Only with large proton doses did mitotic activity decrease. Twenty hr after proton irradiation with 40-1000 rad, the mitotic index reached a low of 1.4-0.07 (1.9 in the control).

Intensive recovery of the mitotic index in the postirradiation period was

Card 2/3

ACC NR: AT6036519

observed with both types of radiation: the index had reached initial levels within 36-40 hr for almost all doses. Two days after gamma irradiation the mitotic index was 2-3 times higher than the initial level, whereas after proton irradiation the mitotic index recovered in three days.

Comparison of changes in mitotic activity after both proton and gamma irradiation showed the clear dose dependence of depression of mitotic activity. The same pattern of changes was observed after both types of irradiation, and quantitative relationships in observed processes were identical in both cases. (W. A. No. 22; AD Report 66-116)

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

MESHALKIN, Ye.N.; SERGIYEVSKIY, V.S.; KABACHEVSKAYA, E.E.

Late results of aortopulmonary anastomosis in dextraposition of the bulbus cordis (tetralogy of Fallot). *Eksp. khir.* 4 no.6: 17-26 N-D '59. (MIRA 14:6)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir. - prof. Ye.N.Meshalkin) Sibirs'kogo otdeleniya Akademii nauk SSSR i khirurgicheskogo otdeleniya 52-y gorodskoy klinicheskoy bol'nitsy Moskwy (glavnyy vrach P.S.Petrushenko).  
(TETRALOGY OF FALLOT)

KABACHINSKIY, N. N.

"On the problem of determining the pressure of water on the surface of a moving ship by the method of the effect function," Trudy Gor'k. industr. in-ta in. Zhdanov, Vol. VII, Issue 2, 1948, p. 5-24 - Bibliog: 6 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

[N.]

KABACHINSKIY, N., doktor tekhnicheskikh nauk, professor.

Increasing the pulling power of screw tugboats. Mor. i rech. flot 13 no. 5:22-24  
S '53.

(MIRA 6:10)

(Tugboats)

123-1-1182  
Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957,  
Nr 1, p. 174 (USSR)

AUTHORS: Kabachinskiy, N. N., Solov'yev, S. S.

TITLE: Determination of Stresses in Propeller Shaft and in  
Screw Propeller When Its Blades Strike a Hard Object  
(K zadache opredeleniya napryazheniy v grebnom valu i v  
grebnom vinte pri udare yego lopasti o tverdyy predmet)

PERIODICAL: Trudy Gor'kovsk. politekhn. in-ta, 1956, 11, Nr 4, pp.12-24

ABSTRACT: In discussing this problem the authors take certain design  
of propeller shafting with a screw propeller protected  
from dynamic overstress by the introduction of additional  
yielding elements in the junction of detachable blades  
with the nave, in the bearing bushing of the propeller  
shaft, and in the junction of the latter with the idler  
shaft. They analyze the motion of the given mechanical  
system while in vibration after an impact. The Lagrange-  
type equations of motion are formed and a method for  
calculation of inertia coefficients are indicated.

Card 1/2

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619720011-4

KABACHINSKIY, N.N., doktor tekhn.nauk

Calculating stresses in the shaft and in the propeller as a  
result of the blade striking a hard object. Trudy NTsO sud.  
prom. 7 no.2:305-332 '57. (MIRA 12:1)  
(Shafting) (Propellers)

KABACHINSKIY, N.N., doktor tkehnicheskikh nauk.

Improving the propulsion capacity of the unit vessel-pusher. Rech.  
transp. 16 no.1:25-26 Ja '57. (MIRA 10:3)  
(Towing) (Ship propulsion)

KABACHINSKIY, N.N., doktor tekhn.nauk

Approximate analytical determination of the interaction between  
propellers and pusher-tug hulls. Trudy GPI 14 no.1:3-13 '58.  
(MIRA 13:2)  
(Ship propulsion)

KABACHINSKIY, N.N., doktor tekhn.nauk

Determining stresses in propeller shafts under the effect of the  
propeller impact against a hard body. Trudy GPI 14 no.1:14-16  
'58. (MIRA 13:2)

(Shafting)

(Strains and stresses)

KABACHINSKIY, N.M., doktor tekhn.nauk, prof.

Calculating the transient process in the movement of a self-propelled model. Trudy GPI 15 no.1:8-11 '61 [i.e. '59].

(Transients (Dynamics)) (Ship models--Testing) (MIRA 15:11)

KABACHINSKIY, N.N., doktor tekhn.nauk, prof.

Form of equations for the dynamics of complex systems. Trudy  
GPI 15 no.1:5-8 '61 [i.e. '59]. (MIRA 15:11)  
(Thermodynamics)

LAVRENTOVICH, Ya.I.; LEVON, A.I.; KABACHKI, A.M.

Effect of radiation with various magnitude of linear energy transfer on polymeric films containing dyes. Ukr.khim.zhur.  
31 no.5:440-444 '65.  
(MIRA 18:12)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR.  
Submitted Jan. 16, 1964.

MITEV, D.; KABACHKIEV, G.

Foreign bodies in the lower respiratory tract. Khirurgia (Sofia)  
16 no.11:1013-1022 '63.

1. Visash meditsinski institut, katedra po ushni, nosni i gurleni  
bolesti, Sofia. Rukovoditel na katedrata: prof. G. Iankov.

L 14780-65

EWI(u)/EXP(t)/EXP(b) ASD(m)-3 JD

S/0236/64/000/019/0025/0025

TYPE TAGS: metal, nonferrous metals, metal fractions

to the static member

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov (State Scientific Research Institute of Nonferrous Metals)

Card 1/2

BRYUKVIN, W.A.; PETYGIN, V.I.; KABACHKOV, N.I.

Methods of studying the macrokinetics of oxidation of sulfide materials with a continuous recording of the chemical reaction rate. Elektrokhimiia 1 no.7:806-811 J1 '65. (MIRA 18:10)

1. Gosudarstvennyy institut tsvetnykh metallov.

-6-

PROCESSES AND PROPERTIES NINE

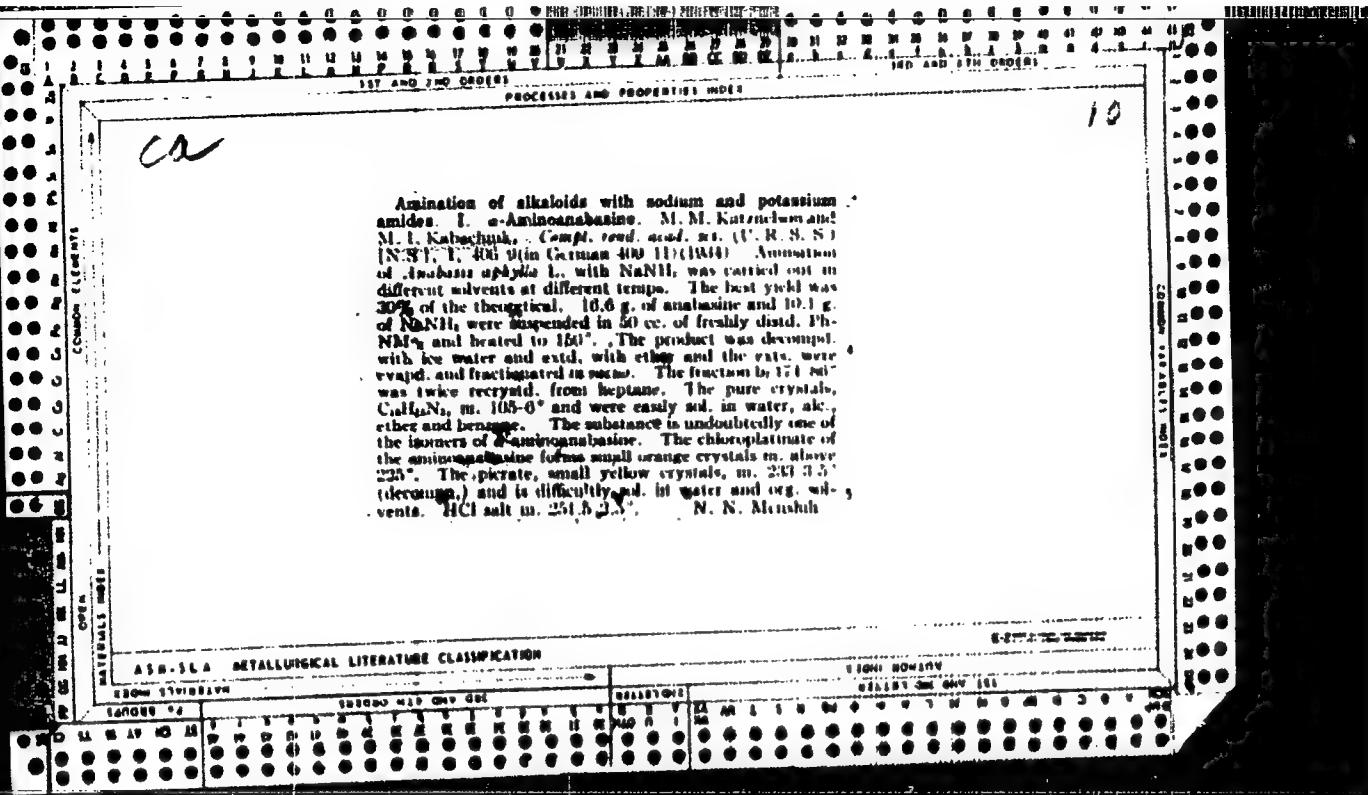
10

**Aminoanabasine.** M. M. Katzenbach and M. I. Katsenbach. Russ. 30, 104, Oct. 31, 1924. Anabasine is heated with amides of alkali metals in the presence of org. solvents.

ABSTRACTS OF METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

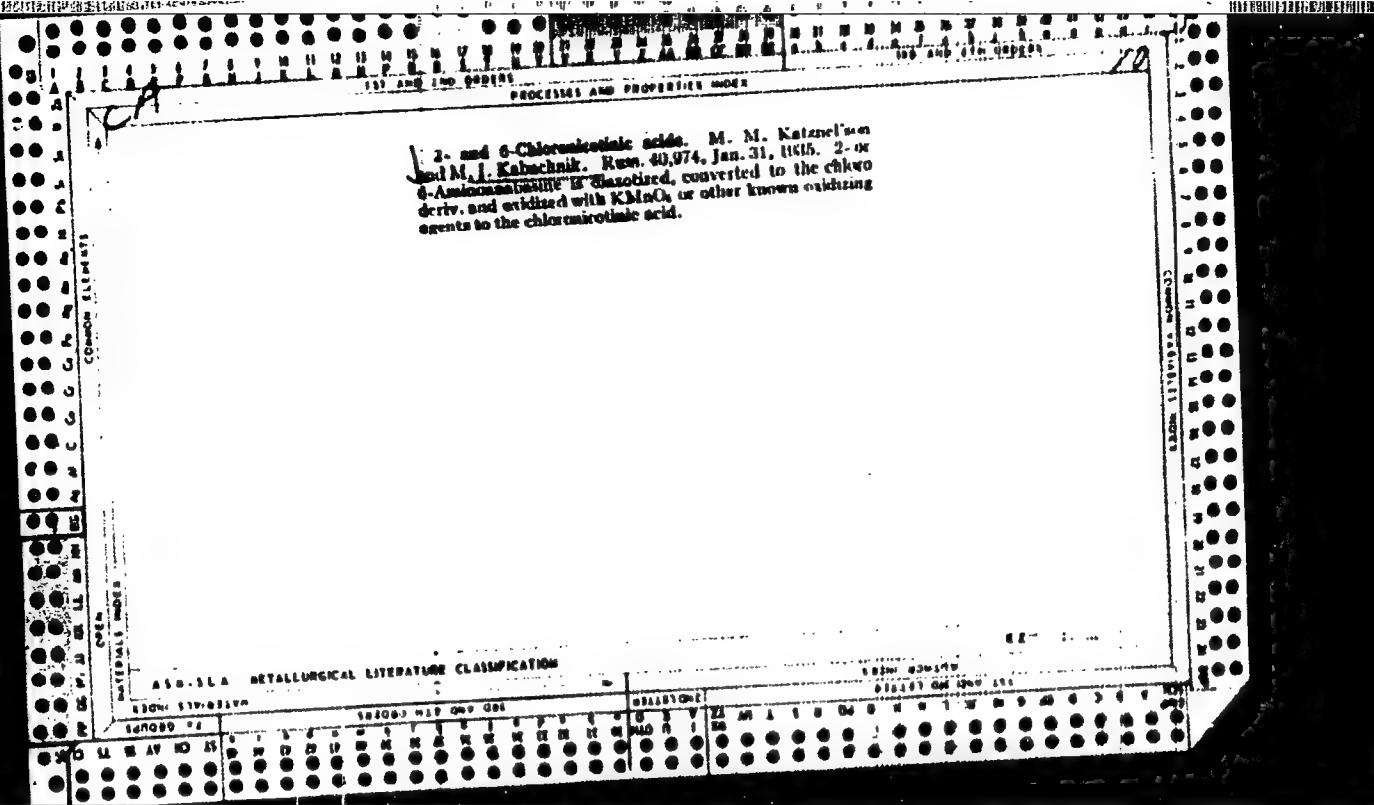
**Amination of alkylidic acids with sodium and potassium amides.** II.  $\alpha$ - and  $\alpha'$ -Aminochloroacetic acids. M. I. Karpinskii and M. M. Katsnel'son. *Compt. rend. acad. sci. U. R. S. S.* 4, 44-77 (in German 47-50) (1931); cf. *C. A.* 26, 4030. —Amination of anabasine with  $\text{NaNH}_2$  gave a mixt. of  $\alpha$ - and  $\alpha'$ -aminoanabasines. Recryst. from  $\text{PbMe}$  gave the  $\alpha$ '-I, m. 103°. Distil. of the mother liquor gave a fraction which on recryst. from  $\text{C}_6\text{H}_6$  gave the salt, m. 88-89°. II in  $\text{HCl}$ , treated with  $\text{HgCl}_2$  and dry  $\text{NaNO}_2$ , gave  $\alpha$ -chloroanabasine (III), m. 98.5-9.5°. Similarly  $\alpha'$ -chloroanabasine (IV), m. 90.5-100°, was prepared. III and IV, resp., oxidized with  $\text{KMnO}_4$  gave the corresponding chlorocrotonic acids, m. 192-3° and 197-8°. These reactions establish the structures of the 2 forms which are opposite to that suggested previously (*C. A.* 26, 2348). Julius White

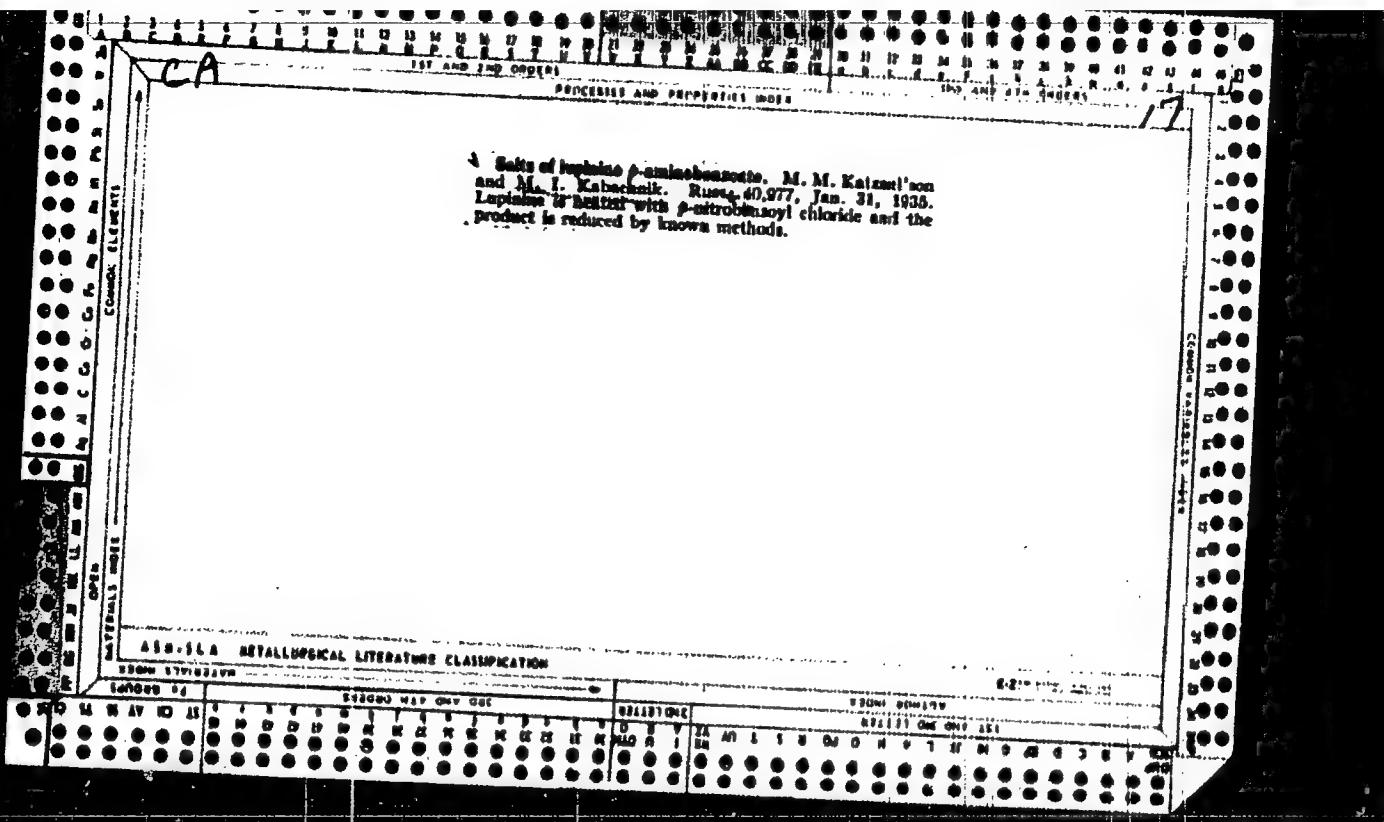
Julian White

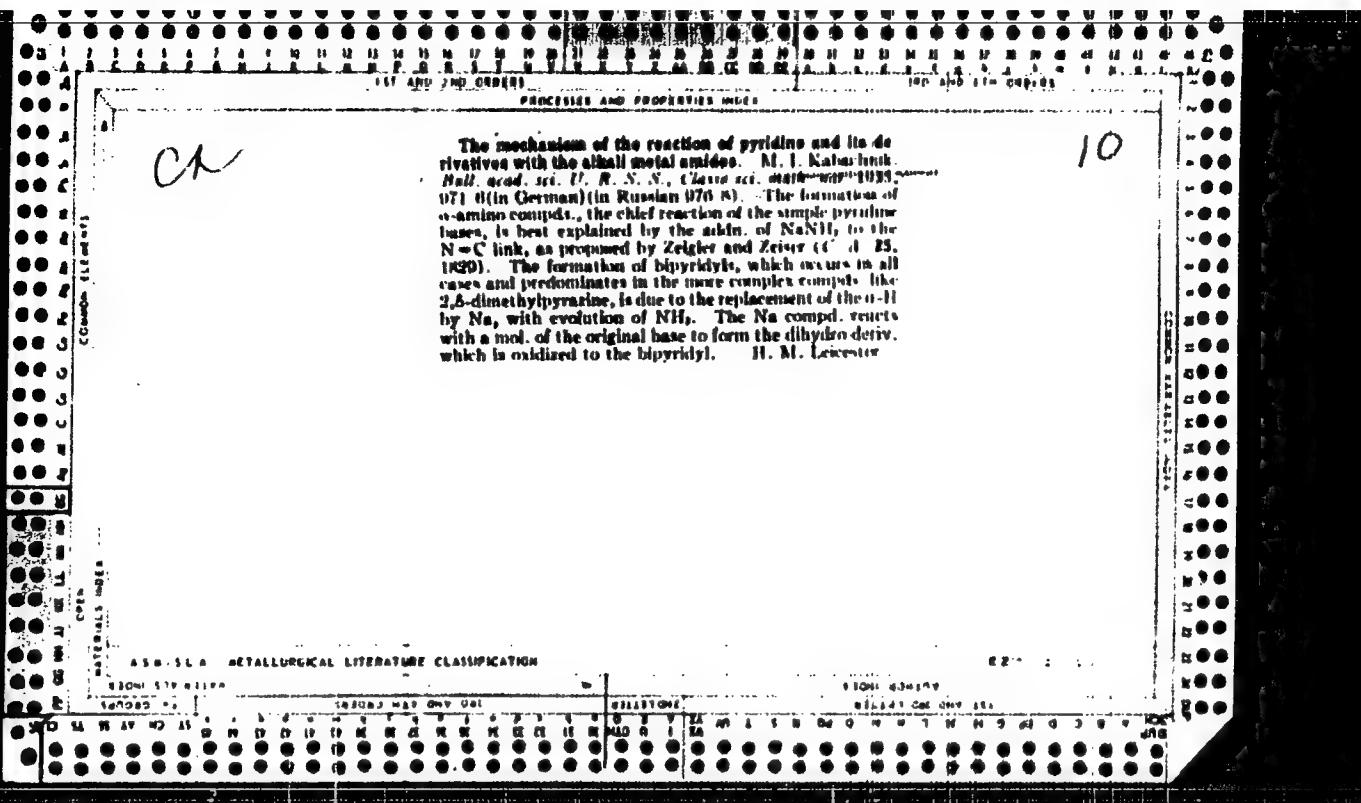
#### 100-514 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619720011-4"







*10*

100% AND PREPARATION. 414  
Meth of *p*-aminobenzoic acid and lupanine. M. M.  
Kefan'ion and M. I. Kalachnik. *Compt. rend. acad. P  
U. R. S. S.* 1967, 130-718 (English 127-9) (1968).  
*p*-Nitrobenzyl lupanine-HCl (I), m. 239-31°, darkening  
230°, was prep'd. in 90% yield from equimol. amounts of  
*p*-NO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>COCl and lupanine. The base of I, m. 93°,  
is insol. in H<sub>2</sub>O and readily sol. in alc. and Et<sub>2</sub>O. I  
(11.8 g.) is reduced with 8.26 g. Sn in 20 cc. HCl (d.  
1.19), the Sn removed with H<sub>2</sub>S and the resulting *p*-  
aminobenzyl lupanine (II) recrystd. from 80% alc., m.

162-3°. Yield 8.6 g. II is insol. in petr. ether and H<sub>2</sub>O  
and slightly soln. in Et<sub>2</sub>O and more sol. in alc. R.B.

430-31A. METALLURGICAL LITERATURE CLASSIFICATION

CA

PROCESSES AND PROPERTIES

10

Amination of alkylides with sodium and potassium amides. III. The structure of chloroanilines isomers. M. I. Kabachnik and M. M. Katsnel'son. *Compt. rend.* 220, 28, U. R. S. J. 2, 35-9 (in English 30-41) (1900); cf. *C. A.* 20, 2171. — K. and K. had prep'd. 2 isomers which they called  $\alpha$ -chloroaniline (I), m. 88.5-9.5° b. 126°, and  $\alpha'$ -chloroaniline (II), m. 99.5-100°. They detd. the structure of each by oxidizing I to  $\alpha$ -chloronitrolic acid, m. 193-3°, and II to  $\alpha'$ -chloronitrolic acid, m. 197-8°. Then Menshikov, Orligorovich and Orechov (*C. A.* 28, 6719) described the prep. of a chloroaniline, m. 99-9°, by a different method and assigned to it the structure of I. They also prep'd. a liquid *N*-methyl-chloroaniline (III), b. 125-5°, by both a different method and assumed that it was a deriv. of I. K. and K. have repeated their work and are certain, from the m. p. and the fact that M., G. and O. were vague in their proof of structure, that the 1st product had the structure of II and not of I. K. and K. had insufficient I to prep. the *N*-Me deriv. but they made *N*-methyl- $\alpha$ -chloroaniline (IV), m. 46-7°, b. 160-2°, from II. This leaves doubt as to the structure of III, for it may have been impure IV or an isomer.

John B. Milbery

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

141245 94

191001 MAY 25 1964

CHICAGO, ILLINOIS

62-1114-4

BC

Amidation with sodium and potassium sulfides on  $\alpha$ - and  $\alpha'$ -amino-piperazine. IV. Nitration of  $\alpha'$ -amino-piperazine. M. M. KATENHOLM and M. L. KARATOCHEVSKII. (Compt. rend. Acad. Sci. U.R.S.S., 1958, 8, 166-172). 2-( $\alpha'$ -Amino- $\beta'$ -pyridyl)piperazine (I), m.p. 109° ( $\alpha'$ -amino-piperazine, A., 103, 222), with  $HNO_3$  (1:4)- $H_2SO_4$  at 0° affords the 2'-nitroamine imidized as its sulphate +  $H_2O$  and anhyd. (II), m.p. 223° (decomp.), converted by heating with conc.  $H_2SO_4$  at 70-80° into 2-(3'-nitro- $\alpha'$ -amino-5'-pyridyl)piperazine, m.p. 178.5-179°, also obtained, together with a substance,  $C_{10}H_{10}O_2N_2$ , m.p. 70°, by nitration of (I) at 70-90°. Dissociation of (I) affords the corresponding 2'-OH-derivative (Na salt) isolated only as its *picrate*, m.p. 311° (decomp.), also obtained by heating (II) with  $Ag_2O$  and subsequent hydrolysis with boiling 5% aq. NaOH. (Note: the m.p. of the 2'- and 5'-pyridyl compounds (*loc. cit.*) should be interchanged; that of the former is 88.5-90°.)

J. W. B.

KABACHNIK

BC

a-3

Mechanism of the reaction of pyridine and its derivatives with alkali metals. M. KABACHNIK (Bull. Acad. Sci. U.R.S.S., 1958, No. 6-7, 971-978).—The formation of dipyridyl and diquinoxyl derivatives in the reaction between  $\text{NaK}/\text{NH}_3$  and  $\text{C}_6\text{H}_5\text{N}$  derivatives in liquid  $\text{NH}_3$  is explained on the basis of entry of Na into the nucleus or side-chain of one mol., which then condenses with a second mol. R. T.

## ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM STEREOVIEW

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CLASSIFICATION

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col

10

*o*- and *o*'-Chloronicotinic acid. M. M. Katunel'son and M. I. Kabanuk. Russ. 40,574, April 30, 1936. *o*- and *o*'-Chloronaphazine are oxidized with KMnO<sub>4</sub>.

430.514 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619720011-4"

CA

PROCESSES AND PROPERTIES INDEX

10

Some derivatives of lupinine. M. M. Katsnel'son and M. I. Kabačnik. *Compt. rend. acad. sci. U. R. S. S. [N. S.]*, 4, 300-11 (1936) (in French).—Treating 33.5 g. chlorolupinine, prep'd. from lupinine and  $SO_2Cl_2$  in dry  $PbCl_2$ , with the Na deriv. of  $CH_3(CO_2Et)_2$  (28.3 g.) and 75 cc. abs.  $EtOH$ , followed by fractionation at reduced pressures, yielded 6. g. of *di-Et lupinylmalonate* (I) by  $199.5-210^\circ$   $dl^{20}$  1.0000,  $nD^{20}$  1.4811; the Na salt, obtained by means of NaOH and  $EtOH$ , gave with  $BaCl_2$  the corresponding *Ba salt*. Refining a mixt. of I (1.6 g.), 5 cc. concd. HCl and 5 cc.  $H_2O$  for 2 hrs. gave *lupinylacetic acid*. Condensation of I (2 g.) with 0.66 g.  $(NH_4)_2CO_3$  in the presence of NaOEt on the water bath gave the Na salt of I and the *di-Na deriv. of lupinylbarbituric acid*.  
John F. Lontz

ABE-11A METALLURGICAL LITERATURE CLASSIFICATION

FROM 1910-1940

1941-1945

1946-1950

1951-1955

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BC

7-3

Preparation of *p*-phenanthroline and 3:3'-dipyridyl. M. I. KARATAEV<sup>1</sup> AND V. V. RESIN<sup>2</sup> (J. Appl. Chem. USSR, 1966, 9, 2026-2029).—  
*p*-(*N*,*N*-(*N*,*N*-dipyridyl)-*p*-NO<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NO<sub>2</sub>)phenol, and H<sub>2</sub>SO<sub>4</sub> (1 hr. at 130°, 1.5 hr. at 130-150°, and 1.25 hr. at 150-160°) yield *p*-phenanthroline, from which 3:3'-dipyridyl is prepared by known methods. N. T.

140-514 RETRIEVAL LITERATURE CLASSIFICATION

Ring cleavage in cyclic aminothiones. Cleavage of 6,7-dimethoxyisoquinolines. M. I. Kalbachuk and A. I. Ziter. *J. Org. Chem. (U. S. S. R.)* 7, 1728-8 (1957).—Zincke (C. A. 4, 7, 1711) showed that 3,4-dimethoxyisoquinolinium chloride (I) reacts with  $\text{PhNHNH}_2$  (II) with a rupture of the pyridine-like ring and formation of a derivative of the tautomeric homophthalic anhydride:  $(\text{O}_2\text{N})\text{C}_6\text{H}_4\text{NHCH}(\text{CH}_2\text{C}_6\text{H}_4\text{CH}_2\text{NH})\text{N}(\text{O}_2\text{N})$ . Attempts to effect a similar ring cleavage in 3,4-dimethoxy-4,7-dimethoxyisoquinolinium chloride (III) by the action of various organobases failed to give a deriv. of the expected tautomer, dimethoxyhomophthalic aldehyde,  $4,6-(\text{MeO})_2\text{C}_6\text{H}_3\text{CH}(\text{OH})\text{C}_6\text{H}_4\text{CHO}$ . Refluxing (III) with 3 mole. of  $\text{PhNHNH}_2$ , in ac., for 8-6 hrs. resulted in about 100% 2,4-( $\text{O}_2\text{N})\text{C}_6\text{H}_3\text{NHPh}$ , m. 157-8°, and dimethoxyisoquinolinium

(IV), m. 101-4.5°,  $\rho$ - $\text{MeC}_6\text{H}_4\text{NH}_2$ , with III gave 2,4-( $\text{O}_2\text{N}$ )- $\text{C}_6\text{H}_3\text{NH}_2\text{Cl}\text{AlCl}_3$ , m. 130-7°, and IV. Pipelining gave 2,4-diaikotropheylphenylperimidone (not isolated),  $(\text{CH}_2)_2\text{N}_2\text{HCl}$  and IV. The interaction of III with II and  $\rho$ - $\text{O}_2\text{N}_2\text{C}_6\text{H}_4\text{NH}_2\text{H}_2$  gave mixts. of compounds which were not identified. Papaverine (200 g.) in 70%  $\text{AcOH}$  was oxidized with 300 g.  $\text{Na}_2\text{Cr}_2\text{O}_7$  in  $\text{AcOH}$  at the boiling temp., and the ppt. was ext. with  $\text{CHCl}_3$ , giving nearly 100% papaveridine, m. 200-7°. This decompd. with  $\text{NaOH}$  at 200-300° (Dobson and Perkins, C. A. 4, 5, 2067) gave 37.5% IV, m. 01.2°. III, m. 154.5°, resulted in 80% yield from IV and 2,4-( $\text{O}_2\text{N}$ )- $\text{C}_6\text{H}_4\text{Cl}$  by the Zincke method for the prepn. of I (loc. cit.). III in  $\text{H}_2\text{O}$  treated with dil  $\text{NaOH}$  pptd. the free base, which is immediately re arranged into the pseudolute *1*-hydroxy-2,2,6,6-tetrahydro-phenyl - 6,7 - dimethyl - 1,2 - dihydro-quinoline, red crystals, m. 162-3° ( $\text{Me}_2\text{CO}$  +  $\text{H}_2\text{O}$ ). The *Me* ester, m. 116-18°, and *Et* ester, m. 145-8°. About 30 references. Chas. Blane

Chine. Blatt

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619720011-4"

The action of acid chlorides on  $\alpha$ -pyridylnitramine. M. I. Kabachnik. *J. Gen. Chem. (U. S. S. R.)* 7, 1743-53 (1937).  $\alpha$ -Pyridylnitramine (I) reacts energetically with  $p$ -NO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>COCl (II) in HOAc or Ac<sub>2</sub>O to give  $N$ - and  $p$ -nitrobenzoyl-( $\beta$ -chloro- $\alpha$ -hydroxypyridine) (III), m. 143-5°. The benzoylation probably occurs on the O, though it is possible that it takes place on the N of the ring. When III is hydrolyzed in 1:1 HCl, it yields  $p$ -nitrobenzoic acid and  $\alpha$ -hydroxy- $\beta'$ -chloropyridine (IV), m. 103-4°. IV is identical with the product prepd. by chlorination of  $\alpha$ -aminopyridine and diazotization of the compd. thus obtained to replace the NH<sub>2</sub> by OH. When IV is treated with NaOH and II, it gives III, I and BaCl in a 1:3 mixt. of Ac<sub>2</sub>O and AcOH also gives off N<sub>2</sub> and forms benzoyl-( $\beta$ -chloro- $\alpha$ -hydroxypyridine), m. 95.0-95.5°, which is also formed from BaCl, NaOH and IV. The corresponding reaction with AcCl is not as smooth as with the Ba compds.

H. M. Leicester

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